

$$V=4\text{m/s}$$

$$M=m_1+m_2=45+75=120\text{kg}$$

By the law of conservation of energy:

$$m\frac{v^2}{2} = M\frac{u^2}{2}$$

where $m=120\text{kg}$ - mass of J&J, $M=15\text{ kg}$ - mass of crate, $v=4\text{ m/s}$

u - unknown speed of crate

$$\text{So we have } u=v\sqrt{m/M}=4*\sqrt{120/15}=8\sqrt{2}\text{ m/s}$$

Answer $8\sqrt{2}\text{ m/s}$